Summary & Closing Remarks

Yoshihiko Nakagaki

It is a pleasure to present the summary of today's sessions. Yesterday we were presented with an overview of important issues being considered in the seminar, including environmental issues, electricity deregulation, and issues of sustainable development, along with case studies for Malaysia, Indonesia and Viet Nam. The last session focused on important issues about energy resources, external costs of power generation and public concerns in Thailand.

Today, Session 4 began with an overview presentation by Ms. Griffiths on the role of coal, and the need for the coal industry to meet the higher environmental standards demanded at local, national and global levels. She highlighted the importance of clean coal technologies in achieving higher environmental standards, and recommended continued research on options to capture and store CO_2.

Mr. Wibberley presented the Stage I results of an innovative "coal in a sustainable society" study that compares technology and fuel options based on a full accounting of all greenhouse gas implications, direct and indirect. The Stage I results demonstrated that the CO_2 disadvantage of coal for some technology combinations is less than generally recognized.

The ambitious Korea-wide program to install FGD units on all of KEPCOs major power plants was discussed by Dr. Park. This program has been a major contributor to a 75 percent reduction in SO_2 emissions from power plants between 1994 and 1999.

Session 5 focused on the commercial availability of CCTs in the APEC region. Mr. Saiga reviewed an innovative demonstration project in Thailand funded under Japan's Green Aid Plan. A circulating fluidized bed boiler was installed in Thailand to burn a mixture of corncob residue and lignite. The results have been high combustion efficiencies, and low NOx and SO_2 emissions, demonstrating a desulfurization rate of over 90 percent.

Mr. Hotta followed with a presentation of the performance review of a modern 300 MW circulating fluidized bed plant operated at Tha Toom, 140 km northeast of Bangkok. The plant burns a combination of anthracite coal and biomass and has achieved Thailand's emission limits. The plant can achieve higher standards of SO_2 control in the future, and also has lower net greenhouse gas emissions due to the use of biomass in the fuel mix.

Dr. Shaozeng reviewed some of the technical difficulties of burning certain Chinese coals, and China's ongoing research to solve environmental problems associated burning low rank coals.

Speakers in Session 6 focused on the increasingly important issue of emerging technologies for reducing GHG Emissions. Dr. Xu discussed China's ambitious plans to construct the world's largest 300-400 MW IGCC plant by 2004. He reviewed the achievements and plans for improving the efficiencies of coal-fired plants in China.

Dr. Mourits discussed the technical and economic aspects of CO_2 capture and storage technology research in Canada. He outlined a series of projects underway and planned that can help Canada move toward achieving CO_2 reduction goals. One of his conclusions is that the use of capture and storage of CO_2 is likely to play a critical role in the world in the next 25 years.

Mr. Smouse reviewed the US Department of Energy's energy-related environmental programs, addressing issues affecting coal-fired power plants, including both local and regional pollutants that directly impact on human health. He also discussed research on options to reduce CO_2 emissions through both increased energy efficiencies and CO_2 recovery and sequestration.

The focus of the final 7^{th} session of the day was on clean fuels. Mr. Edwards summarized the findings of an APEC Clean Fossil Energy study on alternative clean fuels for the transport sector in APEC economies. Based on the results of the study recommendations have been made on clean fuel and vehicle options that have potential to reduce harmful emissions.

Mr. Karas of Australia discussed how improved liquid fuel specifications could have beneficial environmental implications. The last speaker of the day, Ms. Sriwan discussed the importance of clean CNG in transportation in selected APEC cities.

In summary today's speakers discussed the extensive research and development work underway in APEC economies to effectively address local, regional and global environmental challenges facing the

fossil fuel industry. Speakers included examples of innovative clean-coal facilities operating in various economies, including Thailand, as well as efforts underway to solve future problems facing fossil fuels, particularly how to reduce CO_2 emissions. The last session of the day addressed alternative cleaner fuels for the transport sector, a topic of increasing important in most major APEC cities, including Bangkok.

Today's session sets the stage for tomorrow when speakers will turn to the role of independent power producers in APEC, opportunities for greater cooperation on clean energy technologies in APEC, followed by a panel of experts to discuss clean fossil-energy options in the context of Thailand.

Thank you